

ELECTRONIC BALLAST

CROSS REFERENCE TO RELATED APPLICATIONS

5 This application is a continuation of U.S. Patent Application S.N. 09/887,848, filed June 22, 2001 by Robert S. Newman, Jr., et al. entitled "ELECTRONIC BALLAST" ^{now abandoned} which is assigned to the assignee herein and the entire disclosure of which is hereby incorporated by reference herein.

10 FIELD OF THE INVENTION

The present invention relates to electronic ballasts and, more particularly, to electronic dimming ballasts for gas discharge lamps, such as fluorescent lamps.

BACKGROUND OF THE INVENTION

15 Electronic ballasts for fluorescent lamps typically can be analyzed as comprising a "front end" and a "back end". The front end typically includes a rectifier for changing alternating current (AC) mains line voltage to a direct current (DC) bus voltage and a filter circuit for filtering the DC bus voltage. Electronic ballasts also often use a boost circuit for boosting the magnitude of the DC bus voltage. The filter circuit 20 typically comprises a capacitive low-pass filter.

The ballast back end typically includes a switching inverter for converting the DC bus voltage to a high-frequency AC voltage, and a resonant tank circuit having a relatively high output impedance for coupling the high-frequency AC voltage to the lamp electrodes. The ballast back end also typically includes a feedback 25 circuit that monitors the lamp current and generates control signals to control the switching of the inverter so as to maintain a desired lamp current magnitude.

In order to maintain stable lamp operation, typical prior art electronic ballasts filter the DC bus voltage to minimize the amount of bus voltage ripple. This is